|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 26.  | Which best describes the definition of Type I “Small Appliance” as defined by the EPA?

|  |  |  |  |
| --- | --- | --- | --- |
| a. | Systems manufactured, charged and hermetically sealed with five pounds or less of refrigerant | c. | any appliance with more than 5 pounds of refrigerant |
| b. | refrigerators, freezers, room air conditioners and central air-conditioners | d. | any appliance charged with less than two pounds of refrigerant |

 |
|  27.  | For service and repair and maintenance of small appliances, recovery equipment manufactured after \_\_\_\_\_ must be certified by an EPA approved organization.

|  |  |  |  |
| --- | --- | --- | --- |
| a. | July 1, 1992 | c. | January 1, 1995 |
| b. | August 12, 1992 | d. | November 15, 1993 |

 |
| 28.  | For small appliance use, the recovery unit manufactured after November 15, 1993, must be capable of recovering:

|  |  |  |  |
| --- | --- | --- | --- |
| a. | 80% of the refrigerant when the compressor is not operating | c. | 80% of the refrigerant when the compressor is operating or achieve a 4” vacuum under ARI-1993 |
| b. | 90% of the refrigerant when the compressor is operating or achieve a 4” vacuum under ARI 740-1993 | d. | A & B above |

 |
| 29.  | The sale of Class I and Class II refrigerants is restricted to technicians certified by an EPA approved program after:

|  |  |  |  |
| --- | --- | --- | --- |
| a. | July 1,1992 | c. | Aug. 12, 1993 |
| b. | November 15, 1993 | d. | November 14, 1994 |

 |
| 30.  | The release of vapor from the top of a charging cylinder when filling should:

|  |  |  |  |
| --- | --- | --- | --- |
| a. | be vented to the atmosphere | c. | not be vented and should be recovered |
| b. | be vented if the quantity does not exceed 3 pounds | d. | be vented but not be inhaled |

  |
| 31.  | Should the regulations of the Clean Air Act (CAA) change after a technician becomes certified:

|  |  |  |  |
| --- | --- | --- | --- |
| a. | the technician must take a new exam to remain certified | c. | it will be the technician’s responsibility to comply with any  changes in the law |
| b. | all technicians that previously passed with a grade over 80% will be “grandfathered” | d. | the technician will be retested with a required passing grade of 90% |

 |
|  32.  | Containers of HFC-134a are colored:

|  |  |  |  |
| --- | --- | --- | --- |
| a. | green | c. | light blue |
| b. | white | d. | Yellow |

  |
| 33.  | System dependant refrigerant recovery of small appliances:

|  |  |  |  |
| --- | --- | --- | --- |
| a. | does not require an operating compressor | c. | recovers refrigerant into a non-pressurized container |
| b. | requires 80% of the charge to be recovered | d. | all of the above |

 |
| 34.  | Mixed refrigerant sent to reclaim centers:

|  |  |  |  |
| --- | --- | --- | --- |
| a. | may be disposed of at owners expense | c. | can be reused as is |
| b. | can be reclaimed and resold | d. | just needs to be filtered |

 |
| 35.  | Before disposing of a small appliance containing CFC-12, it is necessary to:

|  |  |  |  |
| --- | --- | --- | --- |
| a. | pressurize with nitrogen | c. | turn upside down |
| b. | recover the refrigerant | d. | thoroughly leak check |

 |
| 36.  | Hydrochloric and hydrofluoric acids are:

|  |  |  |  |
| --- | --- | --- | --- |
| a. | caused from CFCs or HCFCs in the presence of moisture being exposed to high heat | c. | to be avoided when handling with bare hands |
| b. | damaging to the windings found in hermetic compressors | d. | all of the above |

  |
| 37.  | A system has been operating with a complete restriction at the capillary tube inlet, what access is required for recovery?

|  |  |  |  |
| --- | --- | --- | --- |
| a. | on access valve on the low side of the system | c. | one access valve on the high side |
| b. | two valves, high and low side | d. | one access on the evaporator and one on the low side |

 |
| 38.  | Which of the following refrigerants can be mixed?

|  |  |  |  |
| --- | --- | --- | --- |
| a. | R-12 & R-134a | c. | R-22 & R-502 |
| b. | R-12 & R-11 | d. | None of the above |

 |
| 39.  | CFC and HCFC refrigerants cause suffocation because:

|  |  |  |  |
| --- | --- | --- | --- |
| a. | they contain acidic substances | c. | they are lighter than air and will rise |
| b. | they are heavier than air and displace oxygen | d. | the smell terrible preventing you from breathing |

 |
| 40.  | A nitrogen tank should always be equipped with a(n):

|  |  |  |  |
| --- | --- | --- | --- |
| a. | pressure regulator | c. | low loss fitting |
| b. | EPR valve | d. | air purger |

 |
| 41.  | Nitrogen used for brazing purposes, holding charges, or leak checking:

|  |  |  |  |
| --- | --- | --- | --- |
| a. | must be recovered | c. | may be vented to the atmosphere |
| b. | should not be used. It can saturate the system with moisture | d. | could be recovered passively |

  |
|  42.  | Line tapping and piercing valves should always be removed from a system after the repairs are completed because:

|  |  |  |  |
| --- | --- | --- | --- |
| a. | they restrict the flow of refrigerant | c. | the neoprene gasket will eventually fail and cause a leak |
| b. | they are costly | d. | they destroy the appearance |

  |
| 43.  | CFCs will not be manufactured in the USA after:

|  |  |  |  |
| --- | --- | --- | --- |
| a. | 2000 | c. | 2005 |
| b. | 1995 | d. | 1996 |

 |
| 44.  | The law states that leaks in small appliances:

|  |  |  |  |
| --- | --- | --- | --- |
| a. | must be repaired | c. | do not have to be repaired but it is a good practice to repair whenever possible. |
| b. | be repaired if the system contains more than five (5) pounds of refrigerant | d. | be repaired if the leak rate exceeds two (2) pounds a year |

 |
| 45.  | To work on small appliances after November 14, 1993, a technician must be certified as:

|  |  |  |  |
| --- | --- | --- | --- |
| a. | Type I | c. | Universal |
| b. | Type II | d. | A or C |

  |
| 46.  | The required service aperture usually found on small appliances is:

|  |  |  |  |
| --- | --- | --- | --- |
| a. | the three-way service valve | c. | the schrader valve |
| b. | the process stub | d. | the door handle |

 |
| 47.  | Package terminal heat pumps with less than five (5) pounds of refrigerant must be serviced by technicians with a \_\_\_\_\_ certification.

|  |  |  |  |
| --- | --- | --- | --- |
| a. | Type I | c. | Type III |
| b. | Type II | d. | Type II or III |

 |
| 48.  | Which refrigerants have a “0” ODP?

|  |  |  |  |
| --- | --- | --- | --- |
| a. | CFCs | c. | HFCs |
| b. | HCFCs | d. | All of the above |

  |
| 49.  | Disposable refrigerant cylinders should be disposed of by:

|  |  |  |  |
| --- | --- | --- | --- |
| a. | rendering useless and sent to salvage | c. | using for a recovery cylinder |
| b. | taking to a service station and using for an air tank | d. | refill with other refrigerants |

  |
| 50.  | Which refrigerant is most commonly used today as a replacement for R-12 in newly manufactured small appliances?

|  |  |  |  |
| --- | --- | --- | --- |
| a. | r-22 | c. | r-134a |
| b. | r-502 | d. | r-123 |

 |